



**INSPECTION PHASE COMPLETION REPORT ( PHASE 2 )**

# **KAMEHAMEHA SCHOOLS LARGE CAPACITY CESSPOOL AUDIT**

**KAUAI, MAUI, AND MOLOKAI, HAWAII**  
FEBRUARY 2022

**PREPARED FOR:**



**KAMEHAMEHA SCHOOLS**

**PREPARED BY:**



**R. M. TOWILL CORPORATION**

2024 N. KING ST., SUITE 200  
HONOLULU, HAWAII 96819  
(808) 842-1133  
FAX: (808) 842-1937  
(RMT 1-23930-OW)

## **LARGE CAPACITY CESSPOOL AUDIT INSPECTION PHASE COMPLETION REPORT – PHASE 2**

CLIENT: Kamehameha Schools  
567 South King Street  
Honolulu, Hawaii 96813

THIRD-PARTY AUDITOR: R. M. Towill Corporation  
2024 North King Street, Suite 200  
Honolulu, Hawaii 96819-3494  
Phone: (808) 842-1133

*I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

*Because this report contains confidential personal and business information belonging to Kamehameha Schools' (KS) tenants, KS requests that such information contained in this report be maintained in confidence by the Environmental Protection Agency and its staff and be used solely for the purposes of this Audit, such that the materials containing such information be exempt from mandatory disclosure in compliance with the various provisions of the Freedom of Information Act and withheld from discretionary disclosure under the Privacy Act. Pursuant to the above, we have marked the pages and documents containing such information as "CONFIDENTIAL INFORMATION; CONFIDENTIAL TREATMENT UNDER FOIA REQUESTED" and request notification of any request for such information so that KS and/or its tenant(s) may, if deemed necessary or appropriate, pursue any remedies available.*

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## **Introduction**

Effective September 28, 2018, the Trustees of the Estate of Bernice Pauahi Bishop, dba Kamehameha Schools (KS) entered into a Consent Agreement and Final Order (CA/FO) with the United States Environmental Protection Agency (US EPA) to identify and close any remaining Large Capacity Cesspools (LCC) on their properties. A cesspool is a shallow system for disposing sanitary waste, typically consisting of a concrete cylinder with an open bottom and perforated sides. The criteria the USA EPA uses for identifying LCCs include “multiple-dwelling, community, or regional cesspools, or other devices that receive sanitary wastes, containing human excreta, which have an open bottom and sometimes perforated sides. The Underground Injection Control (UIC) requirements do not apply to single family residential cesspools nor to non-residential cesspools which receive solely sanitary waste and have the capacity to serve fewer than 20 persons a day.”

Cesspools can generally be classified as residential cesspools, non-residential cesspools, or “mixed-use” cesspools as follows:

**Residential Cesspools:** According to the US EPA, cesspools that serve multiple residential units, including townhouse complexes or apartments, are LCCs. It is not necessary to calculate the number of users for residential cesspools to determine if they are LCCs. A cesspool connected solely to a single-family residence which does not serve any other structure and does not receive any waste other than residential sanitary waste is not considered an LCC; in certain instances, a detached bathroom may be considered an extension of the single-family dwelling if used only by the residents of the single-family residence

**Non-Residential Cesspools:** According to the US EPA, for non-residential cesspools, capacity is determined by design and construction of the cesspool and the potential usage of the infrastructure it serves. A non-residential cesspool may have the potential to be used by 20 persons or more in a day even if it is not actually used by 20 or more persons per day. Determining the potential usage of a non-residential cesspool is highly fact-specific and must be done on a case-by-case basis. Factors to consider when evaluating a non-residential cesspool’s potential usage include structural barriers preventing access to the area where the facility is located or location on private property that is not accessible to the public. Access to the area must be physically restricted for reasons other than limiting use of the cesspool. The restrictions must provide confidence that 20 or more persons cannot access the cesspool in a single day now or in the future. The USA EPA looks to the use for which the facility was designed and the current use (if different) when evaluating whether it is reasonable to conclude that 20 or more persons cannot access the cesspool in a single day.

The US EPA has indicated that it is not able to accept a certification or affidavit alone as acceptable documentation that a non-residential cesspool’s potential use is limited to 19 or less people in a day. The US EPA has indicated that, specifically with respect to a non-residential cesspool serving a restroom on an agricultural property, acceptable documentation would



include, but are not limited to, copies of employer payroll records, copies of insurance or leasehold documents that note property usage, copies of historical usage records, and copies of annual harvest records that note the scale of farm production.

Mixed-Use Cesspools: A mixed-use cesspool is a cesspool that receives waste from both a residential source and non-residential source. Some examples of mixed-use cesspools are listed below.

- A cesspool connected to both a single-family home and outhouse or semidetached bathroom accessed by any business employee, customer, or other individuals on the property because of the business conducted at the property.
- A cesspool that is connected to a residential dwelling that has restroom facilities for employees, customers, or other visitors on the property because of the business conducted at the property.
- A cesspool that is connected to a single-family home and a non-residential building such as an agricultural facility with a restroom and/or wastewater from processing.

Mixed-use cesspools are considered LCCs. Any outhouse or semidetached bathroom receiving waste solely from the residents of the home is not considered mixed-use and are excluded from the LCC ban.

As part of the CA/FO, KS is required to perform an audit to classify all their properties as either “Target” or “Non-Target”. “Non-Target” properties include those that KS had sufficient documentation (as defined under the CA/FO) that the property fell under one of the following categories:

1. Connected to a municipal sewer system
2. Connected to an onsite wastewater treatment plant (WWTP)
3. Contains an individual wastewater system (IWS), i.e. septic tank
4. Are vacant; or
5. Residential properties containing one or fewer single-family homes or non-residential properties that have the capacity to serve not more than 19 people per day.

All other properties were categorized as “Target” properties to be inspected by an independent third-party auditor for the presence of any LCCs. With the approval of the EPA, KS hired Mr. Kyle Yukumoto, licensed professional engineer, of RM Towill Corporation (RMTC) as the independent third-party auditor.

The overall audit is to proceed in three phases. Phase 1 covers the island of Oahu. Phase 2 covers the islands of Kauai, Molokai, and Maui. Phase 3 covers the island of Hawai'i. This report is the Phase 2 Inspection Completion Report which addresses the islands of Kauai, Molokai, and Maui.

After an initial record search, KS developed a list of four (4) Target Properties to be inspected by RMTC on the islands of Kauai, Molokai, and Maui. As part of the inspection process, RMTC conducted an on-site visual inspection of these four (4) Target Properties between January and February 2019. By letter dated October 9, 2020 to the US EPA, KS submitted a revised list of a total of twelve (12) Target Properties to be inspected by RMTC on the islands of Kauai, Molokai and Maui, four (4) of which were listed in the original list submitted by KS. For each Target Property, Mr. Yukumoto inspected or supervised RMTC's inspection of the site. RMTC conducted an on-site visual inspection of the eight additional Target Properties on October 13, 2021.

In addition to the on-site visual inspections, the Target properties were evaluated for the presence of an LCC based on a review of property records, permits, water use records and/or other documentation, interviews with employees of KS, occupants, tenants and/or lessees.

Overall, in its inspections through these various means, RMTC sought to determine, for each site, whether there was any wastewater disposal on the property and if so the type of wastewater disposal system(s) used – i.e., a cesspool, a sewer connection, a WWTP, an IWS. Evidence looked for included sewer manhole and/or tank covers, cesspool covers or inspection ports, sewer cleanouts, piping and/or plumbing or outlines of sewer line trenches. If the site used a cesspool for wastewater disposal, RMTC analyzed whether it was an LCC or a small capacity cesspool (SCC) according to EPA criteria as outlined above. Any cesspool that did not meet the criteria for a SCC was determined to be an LCC.

After inspection of all twelve (12) Target Properties, RMTC identified one LCC. A summary of the inspection findings is presented in the following table, categorized by the type of wastewater disposal system(s) identified on the property.

Wastewater Disposal Method	No. Identified
LCC	1
Alternative (Or No) Wastewater Disposal System	
Connected to Sewer	0
Onsite WWTP	0
Onsite IWS	1
No Permanent Wastewater Structure	9
SCC	1
<b>Total</b>	<b>12</b>

This inspection report will present a detailed “fact sheet” for each of the 12 Target Properties in the order shown in the table, with supporting documentation provided immediately after the fact sheet.

## **Section 1 – Large Capacity Cesspool**

This section presents the properties that were found to have a Large Capacity Cesspool (LCC). A summary of these sites is shown in the table below and a detailed fact sheet for each site is attached in the following pages.

#	Area	TMK	Address	Site Description
1	Molokai	256006008	Kamehameha V Hwy Kaunakakai, HI 96748	Fishpond

## Inspection Report – LCC 1

Site TMK	256006008
Address	Kamehameha V Hwy Kaunakakai, HI 96748
Date Visited	February 7, 2019
Site Description	Fishpond
Additional Documentation	Photos Affidavit
LCC Determination and Reasoning	<p>During the site visit, RMTC observed a Native Hawaiian fishpond operation. RMTC interviewed the tenant. Tenant confirmed there is a single restroom onsite connected to a cesspool. The tenant stated that the restroom is only available to employees, of which there are a maximum of 5.</p> <p>The only visitors to the site are educational groups. When the groups visit the site, the groups are required to bring in portapotties. RMTC observed the single restroom connected to a cesspool during the site visit. The restroom is an outhouse located in an area easily accessed by any visitors to the site.</p> <p>In the time since the initial site visit, two incinerator toilets have been installed on the property. These restrooms are used by visitors to the property, however the outhouse has not been demolished and can still be used by 20 persons per day.</p> <p>This is a Large Capacity Cesspool (LCC) because the cesspool has the potential to serve more than 19 people in a 24-hour period.</p>
Description of LCC	This is a cesspool on commercial property that may serve 20 or more people in a 24-hour period.





Cesspool



Employee Restroom

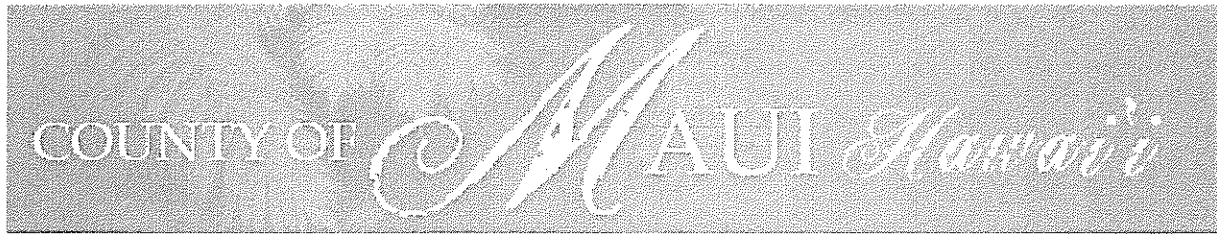
## **Section 2 – Onsite IWS**

This section presents the properties that were found to have an onsite Individual Wastewater System (IWS). A summary of these sites is shown in the table below and a detailed fact sheet for each site is attached in the following pages.

#	Area	TMK	Address	Site Description
1	Molokai	256006034	6880 Kamehameha V Hwy Kaunakakai, HI 96748	Shrimp farm and single-family home

## Inspection Report – Onsite IWS 1

Site TMK	256006034
Address	6880 Kamehameha V Hwy Kaunakakai, HI 96748
Date Visited	February 7, 2019
Site Description	Shrimp farm and single-family home
Additional Documentation	Department of Health (DOH) IWS permit and application, IWS installation photos
LCC Determination and Reasoning	<p>RMTC has determined that this property has an onsite IWS and does not contain an LCC based on the following evidence:</p> <p>The attached DOH permit application, after-the-fact permit and installation photos show that a 1000-gallon aerobic tank and absorption bed was installed. During the site visit, the tenant was not available. RMTC interviewed the KS asset manager who confirmed that the only permanent structure onsite with a restroom is the single-family home. RMTC and KS asset manager confirmed the presence of the existing IWS.</p>
Wastewater Treatment System	IWS



[Help](#) [Home](#) [Logout](#)

[Look Up](#) [Genealogy](#)  
[Summary](#) [RFS](#)

User: RTEJANO

## Permit Summary

<b>Permit:</b>	B T20140620	<b>Flags:</b>	YES
<b>Temporary:</b>			
<b>Description:</b>	BUILDING PERMIT		
<b>Project:</b>	KEAWA NUI FARMS KEAWA NUI FARMS		
<b>Status:</b>	OPEN	<b>Entered:</b>	29-Apr-2014
<b>Issued:</b>		<b>Completed:</b>	
<b>Decision:</b>			
<b>Expiration:</b>		<b>Last Renewal:</b>	
<b>Location Desc.:</b>			

Parcel Information		
<b>Address</b>	<b>TMK</b>	
6880 KAMEHAMEHA V HWY	2560060340000	<b>GIS Parcel</b>

Scope of Work
<p>Project: KEAWA NUI FARMS (FKA DJ OCEAN FAMRS) *****AFTER THE FACT*****</p> <p>Now occupied as: Vacant</p> <p>To be occupied as: MAIN FARM DWELLING</p> <p>Dimensions: 44 x 40</p> <p>Walls: WOOD STUD AND CMU Partitions: WOOD STUD AND CMU Foundation: CONC Floors: CONC AND WOOD Roof: ASPHALT SHINGLES Ceiling: GYP BD Basement: NA</p> <p>*6/18/12 - Application voided ....Architect no longer an active licensed architect. Renee</p>

Professionals / Contractors
<p><b>CLAYTON H NISHIKAWA as DESGN</b></p> <p>2145 WELLS STREET SUITE 301</p> <p>WAILUKU, HI 96793</p> <p>AR - ARCHITECT</p> <p><b>License: 6710 Expires: 30-Apr-2016</b></p> <p style="text-align: right;"><b>Phone: 244-4440</b></p>

[QUANTITIES]

Structure Classification			
<b>Initial Value:</b>	\$150,000.00	<b>Calculated Value:</b>	\$150,000.00
<b>Standard Plan:</b>		<b>Public Project:</b>	NO
<b># of Structures:</b>	1	<b># of Res. Units:</b>	1
<b>Total Floor Area:</b>	2252		
<b>Model:</b>			

Occupancy Group	Construction Type	Structure Class
R-3 DWLS/LODGING HSE/CONGREGATE RES <=10PERS	V-B (06) TYPE V: B	101 SINGLE FAMILY, DETACHED

Conditions of Approval			
Seq.	Condition	Description	Status
1	<u>DSA 009</u>	HOLD HARMLESS - RESTRICTIVE COVENANTS	OPEN
3	<u>DSA 018</u>	DLNR-SHPD	OPEN
4	<u>DSA 007</u>	AGRICULTURE COMPLIANCE	OPEN
5	<u>DSA 002</u>	AFTER-THE-FACT-PERMIT	OPEN
6	<u>DSA 003</u>	ISSUED W/OUT DWS REV/AP - DWS SVC AREAS	OPEN

Inspections							
Inspection	Result	Completed Date	Completed By	Schedule	CORR		N
					O	C	
There are no inspections for this permit.							

[ADD]

Activities								
FINAL REVIEW is the current activity. This activity is available for work as of 02-Dec-2015 and should be completed by 04-Dec-2015.								
Description	Assigned	Nodes			Est. Completion	Target End	Decision	Decision Date
		Beg	End	Dur.				
<u>INITIAL REVIEW</u>	PS	1	2	2	01-May-2014	01-May-2014	P	29-Apr-2014
Comment: 5/22/14 - Recvd Special Inspection SPEC INSP; CONT INFO/SIG								
<u>DSA BLDG PLANS REVIEW</u>	WTAVARES	2	3	30	01-Jun-2014	01-Jun-2014	A	14-May-2014
Comment: WT								
<u>STATE DEPT. OF EDUCATION</u>	DOE	2	3	30	29-May-2014	29-May-2014	NA	21-May-2014
Comment: NA, OUTSIDE OF IMPACT DISTRICT								
<u>DSA ENGINEERING</u>	EL	2	3	30	29-May-2014	29-May-2014	P	01-May-2014
Comment: 10/27/14 - grading permit issued. G20140162 7/8/14 - rec'd email from state on access. ok per email. 5/23/14 - rec'd grade check form -ok. Will not sign off until grading permit GT20130009 is issued. Still need state approval on access. 5/20/14 - Architect to resubmit grade showing zero grading. He will refer to current grading permit number GT20130009. 5/1/14 - need grading application, bmp plan, and state approval for access.								
<u>DSA ENGR: RESUBMIT</u>	EL	2	3	30	29-May-2014	29-May-2014	A	21-Nov-2014



Comment: 10/27/14 - grading permit issued. G20140162								
<u>HEALTH DEPARTMENT</u>	HD	2	3	30	29-May-2014	29-May-2014	P	05-May-2014
<u>DEPT OF HOUSING &amp; HUMAN CONCERNS</u>	HSG	2	3	30	29-May-2014	29-May-2014	NA	30-Apr-2014
Comment: Main farm dwelling								
<u>PLANNING DEPARTMENT</u>	RWAIKIKI	2	3	30	29-May-2014	29-May-2014	P	27-Jun-2014
Comment: Farm Plan Covered under SM52011/0340 Not in Flood Zone								
<u>FINAL REVIEW</u>	PS	3	4	2	04-Dec-2015	04-Dec-2015		
<u>APPLICATION STATUS</u>	PS	4	5	90	03-Mar-2016	03-Mar-2016		

Permit Flags		
Flag	Description	Status
There are no flags on this application		
Parcel Flags		
Flag	Description	Status
032	FLOOD ZONE NOT VERIFIED;CONTACT PLANNING	RESOLVED
039	VERIFY STATE/COUNTY ZONING WITH PLANNING	RESOLVED
003	CONSTRUCTION WITHOUT VALID PERMIT	RESOLVED
058	GRADING VIOLATION - GRADED W/O A PERMIT	OPEN
003	CONSTRUCTION WITHOUT VALID PERMIT	OPEN
032	FLOOD ZONE NOT VERIFIED;CONTACT PLANNING	RESOLVED

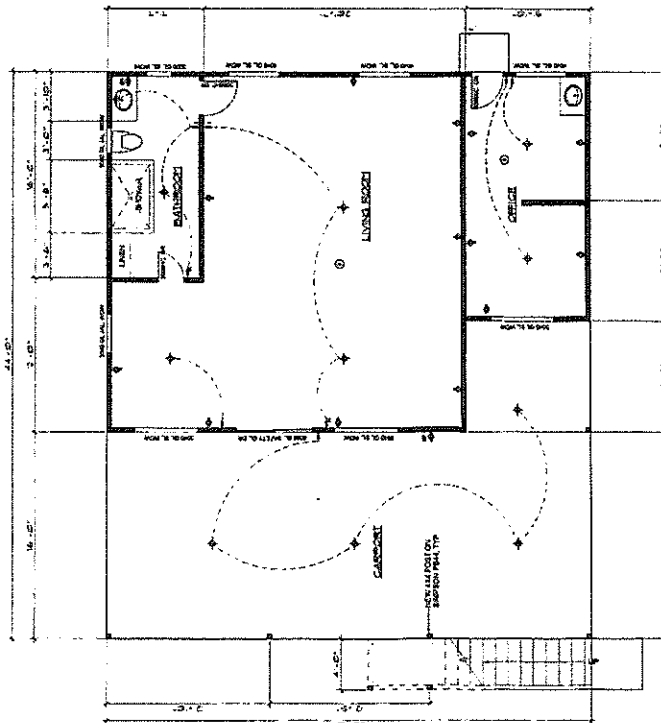
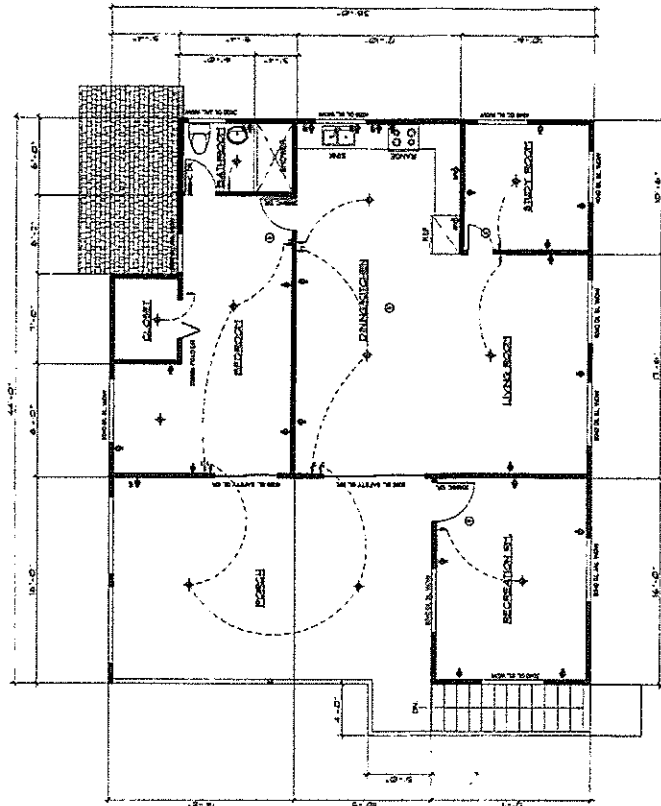
REVISION	BY



**ADS**  
Architectural Design Services  
P.O. BOX 1118  
Honolulu, Hawaii 96814  
T. M. K. : 5-6-006:034  
550-0066

**DESMOND AND CRISTY MANABA**  
PROPOSED NEW RESIDENCE FOR:  
6880 KAMEHAMEHA V HWY., MOLOKAI, HAWAII  
T. M. K. : 5-6-006:034

Date	11-08-07
Scale	AS NOTED
Drawn	DM
Check by	
Job	MUMABA
Sheet No	
<b>A-1</b>	
of Sheets	



- ELECTRICAL LEGEND:**
- ◆ INCANDESCENT LIGHT FIXTURE
  - ◆ FLUORESCENT LIGHT FIXTURE
  - ◆ INCANDESCENT LIGHT FIXTURE
  - ◆ WALL MOUNTED
  - ◆ WEATHERPROOF RECEPTACLE OUTLET
  - ◆ DUPLEX RECEPTACLE OUTLET
  - ◆ 220 VOLT RECEPTACLE OUTLET
  - ◆ SMOKE DETECTOR IN BATTERY BACKUP
  - ◆ U/I LISTED
  - ◆ SINGLE POLE SWITCH
  - ◆ THREE WAY SWITCH



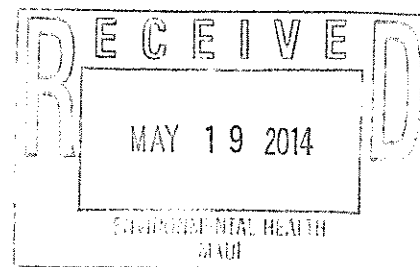
**INDIVIDUAL WASTEWATER SYSTEM  
APPLICATION INFORMATION SHEET**

(Please print or type)

**Engineer:** Linda V. Taylor

**Owner:** Keawa Nui Farms c/o Kamehameha Schools  
Allison Yue, Facilities Project Management Dept.

**Owner's Mailing:** 567 S. King Street, Suite 617, Honolulu, HI 96813



**Project Location:** 6880 Kamehameha V Highway, Keawanui, Molokai, Hawaii  
(Street address, Subdivision Name and General Area):

**Project TMK:** (2) 5-6-006: 034

**Project Lot size:** 19.26 ac

**Projected Flow (gpd) or Number of Bedrooms:** 5

**Proposed Treatment Unit** (Manufacturer, model, design capacity) 1000 gallons (min) Aerobic Unit, Jensen Precast, Concrete or equal. Aerobic Tank must have IAMPO certification and DOH approval

**Proposed Disposal System:** Soil Absorption Bed

**Percolation Rate:** 16 min/in

**Existing IWS on Lot:** yes    **Type:** cesspool

**Existing structure on lot:** yes    **Type:** dwelling

**LCC Upgrade:** no

**Existing potable drinking water well within 1,000 feet of the proposed disposal system?** No

**Would the construction and/or discharges from the proposed IWS affect any public trust or Native Hawaiian resources or the exercise of traditional cultural practices in the vicinity?** No

**If yes, indicate what feasible action can be taken to protect those resources or exercise of practices. Please provide your response on a separate sheet of paper.**

---

**FOR DEPARTMENT USE ONLY**

**Date Received :** \_\_\_\_\_ **Project Engineer:** \_\_\_\_\_ **File No.** \_\_\_\_\_

**Notes :** \_\_\_\_\_

Keawa Nui Farms  
TMK : (2) 5-6-006: 034  
March 19, 2014

## **INDIVIDUAL WASTEWATER SYSTEM DESIGN CALCULATIONS**

### **EFFLUENT DISPOSAL SYSTEM:**

Number of Bedrooms: 5  
Percolation Rate: 10 min/in  
Absorption Area Required: 165 SF/BR, use 200 SF/BR for design  
(ref. Manual of Aerobic Tank practice (11-62-34(a)(3))).

**Total Absorption Area Required: 5 x 200 SF = 1000 SF**

#### **Soil Absorption Trenches:**

1000 sf / 2 ft wide = 500 ft

For 5 trenches : 500 ft / 5 = 100 ft long, say 100 ft

**500 LF SOIL ABSORPTION TRENCH REQUIRED: 5 trenches, 100 FT long, 5 FT apart, 2 FT WIDE, 3 FT deep maximum, see details.**

A system of the size will not feasibly fit in the area dedicated to the IWS. A Soil Absorption Bed may be more suitable.

#### **Soil Absorption Bed: TRAFFIC RATED BED**

1000 SF of Absorption Bed is required: 1000 SF / 22 ft wide = 50 ft

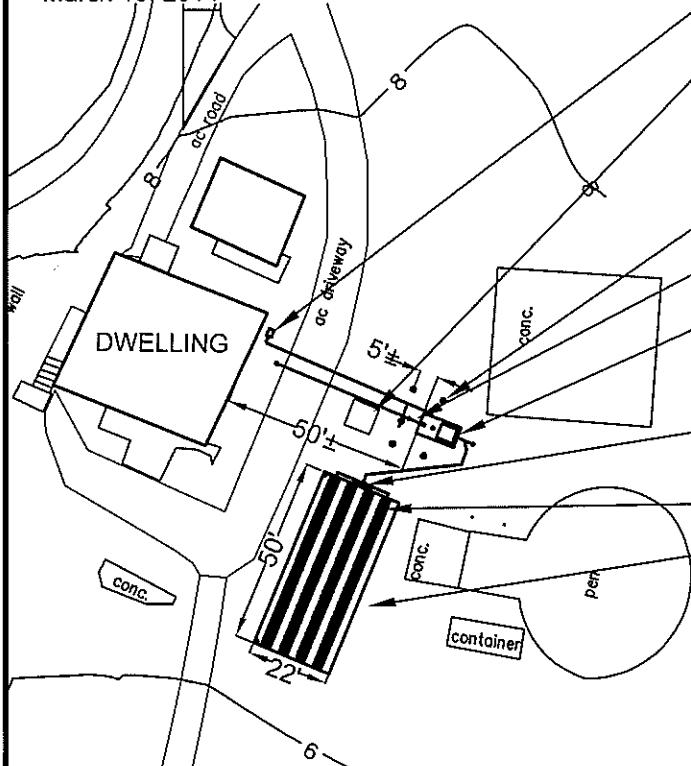
**1000 SF SOIL ABSORPTION BED REQUIRED: 22 FT WIDE X 50 FT LONG, 4 ROWS OF H2O INFILTRATOR CHAMBERS, spaced 5 FT on center, 2 FT from sidewalls, 3 FT deep maximum on 6" gravel bed, backfilled with 6" gravel over chamber, and continuous filter fabric, see details.**

# INDIVIDUAL WASTEWATER DESIGN FOR:

**KEAWA NUI FARM**

**TMK: (2) 5-6-006:034**

March 19, 2014



**COMPRESSOR: EXACT LOCATION TBD  
(NEEDS POWER)**

**EXISTING CESSPOOL TO BE ABANDONED: PUMP, BACKFILL, REROUTE SEWER LINE TO AEROBIC TANK. CONTRACTOR TO LOCATE CESSPOOL & NOTE SIZE ON ASBUILT FOR ENGINEER. SEE NOTES**

**BOLLARDS: TO PROTECT TANK**

**CLEAN-OUTS TO GRADE (TYP)**

**1000 GALLON (MIN) AEROBIC TANK:  
JENSEN PRECAST HJ1500 OR EQUAL .  
BRING MANHOLES TO GRADE & SECURED.  
DISTRIBUTION BOX (TRAFFIC RATED):  
6" MIN INSPECTION PORT TO GRADE  
INSPECTION PORTS (4). EACH CORNER**

**5-BR (EQV.) H20 TRAFFIC RATED SOIL  
ABSORPTION BED:  
1000 SF: 22' WIDE X 50' LONG \*  
32 H-20 INFILTRATORS TOTAL,  
4-ROWS OF CHAMBERS, 5' O.C.,  
2' FROM SIDEWALLS ON 6" GRAVEL BED,  
BACKFILLED WITH GRAVEL & CONTINUOUS  
FILTER FABRIC. (SEE DETAILS)**

## CESSPOOL ABANDONMENT NOTES:

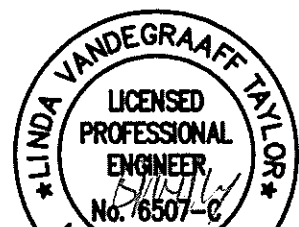
The Contractor shall abandon the cesspool by first removing any excess liquid and solids by pumping and then filling the cesspool with earth, sand, gravel, concrete or rubble. If the cover is removed, the final three(3) feet of fill shall be with solid that is compacted to prevent surface contaminants from gaining access to underground sources of water. Any liquids or solids removed from the cesspool shall be taken to a municipal wastewater treatment plant that accepts such materials. Any liquid or solids from the cesspool that are discharged onto the ground as the result of abandoning the cesspool is a violation of HAR, section 11-62-06(g).

### NOTES:

- Contractor shall visit site and be completely familiar with the existing conditions and work to be performed. Contractor shall verify the location, invert, size, materials and conditions of existing structures and utilize and notify the Engineer immediately if any discrepancies are encountered.
- Exact location of IWS to be field determined. All dimensions shown are minimum, locations approximate.
- Contact Engineer 48 hours prior to construction observation.
- Regrade where necessary to install system according to details.
- tank manhole covers can be either buried not more than 12 inches below the finish grade or brought to grade and secured. For tank manhole covers that are buried, provide some type of permanent marker, magnetic identification or GIS coordinates of the cover. For tank manhole covers brought to grade, the cover shall be secured to prevent unauthorized entry/opening of the tank. All tank manhole covers need to be watertight to prevent inflow from entering the tank and odors from venting. All manhole risers/extensions shall be the same diameter or greater than the tank's manhole openings (minimum, 20 inch diameter opening). For tanks that have effluent filters installed in them, the manhole at the effluent end of the tank shall be extended to grade and the manhole cover secured. Effluent filter shall have a handle extension.
- If a distribution box or header is used, a permanent inspection port with a minimum of 6 inches diameter shall be secured to the box cover, brought to the finished grade and fitted with a screw type cap or cover.
- System to be installed in stabilized fill only.
- Plumbing from building to tank and from tank to distribution box must have a minimum slope of  $\frac{1}{4}$ " per foot. If the slope between the tank and the distribution box exceeds 2" per foot, contact the Engineer before construction.
- The depths to the pipe inverts of the tank, distribution box and disposal system are controlled by topographic features and the invert of the building sewer which may impact the depths shown on the drawings.
- Outside showers to drain into tank.

### SETBACKS:

BUILDINGS:	5 FT
PROPERTY LINES:	5 FT
LARGE TREES:	10 FT
CESSPOOL/PL:	9 FT



SIGNATURE \_\_\_\_\_ EXP 04/30/16  
THIS WORK WAS PREPARED BY  
ME OR UNDER MY SUPERVISION.



**Linda Taylor Engineering, Inc.**

Post Office Box 779, Makawao, Maui, Hawaii



**SITE PLAN**

SCALE: 1" = 30'



Keawa Nui Farms  
TMK : (2) 5-6-006: 034  
March 19, 2014

## SITE EVALUATION / PERCOLATION TEST

**Date/Time:** November 15, 2016

**Owner:** Keawa Nui Farms

**Elevation:** 10 +/- ft

**Depth to Groundwater Table:** not observed ft below grade

**Depth to Bedrock (If observed):** not observed ft below grade

**Diameter of Hole:** 12 in

**Depth to Hole Bottom:** 3 ft, below grade

**Antecedent conditions:** dry conditions

**Prepared by:** Linda Taylor

**TMK:** (2) 5-6-006: 034

**Depth, below grade**

0-12 inches

18-36 inches

**Soil Profile (color, Texture, other)**

dark brown topsoil

grey silty sand

### Percolation Readings

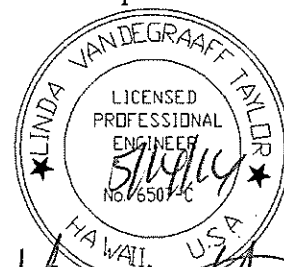
Time 12 inches of water to seep away: 21 minutes (first trial)

For percolation tests in sandy soils, record time intervals and water drops at least every 10 minutes for at least 1 hour. For percolation tests in non-sandy soils, presoak the test hole for at least 4 hours, record time intervals and water drops at least every 10 minutes for 1 hour; or if the time for the first 6 inches to seep away is greater than 30 minutes, record time intervals and water drops at least every 30 minutes for 4 hours or until 2 successive drops do not vary by more than 1/16 inch.

Time Interval (min)	Drop (in)	Time Interval (min)	Drop (in)
30	5	30	3 ½
30	4 ½	30	3
30	4	30	3

**Percolation Rate (time/final water level drop):** 10 min/in

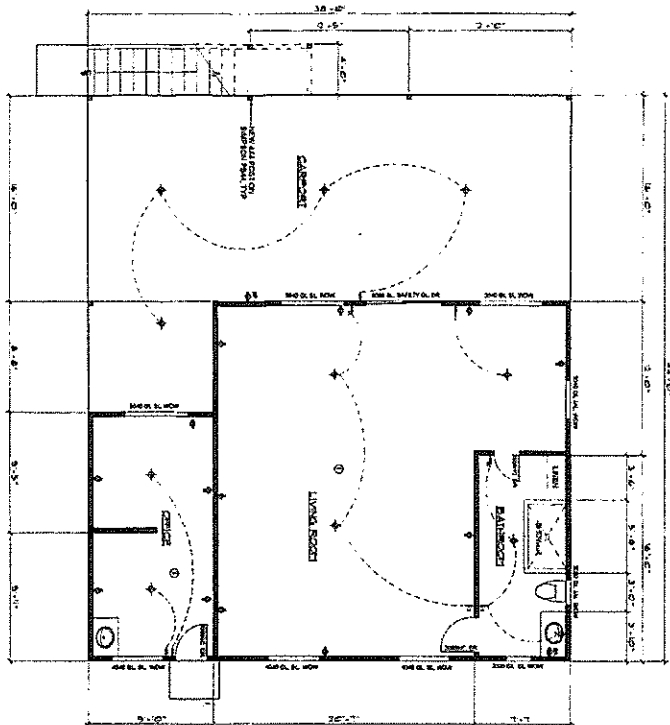
As the Engineer responsible for gathering and providing site information and percolation test results, I attest to the fact that above site information is accurate and that the site evaluation was conducted in accordance with the provisions of Chapter 11-62, "Wastewater Systems" and the results are acceptable.



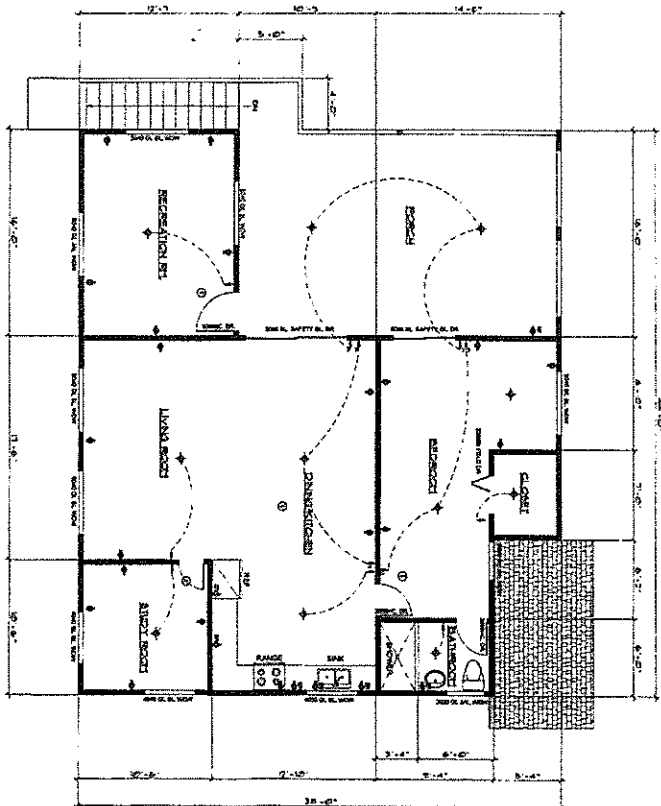
Engineer's Signature/Stamp

**Linda Taylor Engineering, Inc.**

P.O. Box 779, Makawao, Maui, Hawai'i, 96768  
(808) 572-2688

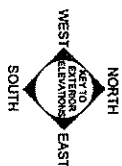


**FIRST FLOOR PLAN**  
SCALE 1/8"=1'-0"



**SECOND FLOOR PLAN**  
SCALE 1/8"=1'-0"

- ELECTRICAL LEGEND:**
- ◆ RECESSED LIGHT FIXTURE
  - ◆ CEILING MOUNTED LIGHT FIXTURE
  - ◆ WALL MOUNTED
  - ◆ WEATHERPROOF RECEPTACLE OUTLET
  - ◆ GFI RECEPTACLE OUTLET
  - ◆ 220 VOLT RECEPTACLE OUTLET
  - ◆ SHOCK DETECTOR W/ BATTERY BACK-UP
  - ◆ UL LISTED
  - ◆ SINGLE POLE SWITCH
  - ◆ THREE WAY SWITCH



PROPOSED NEW RESIDENCE FOR:  
**DESMOND AND CRISTY MANABA**  
6880 KAMEHAMEHA V HWY., MOLOKAI, HAWAII  
T. M. K. : 5-6-008:034

**ADS**  
Architectural Drafting Service  
P.O. BOX 1715  
Kaneohe, Hawaii 96748  
Tel. No. (808) 253-9645  
Fax. No. (808) 253-9642



REVISION	BY

Date	11-09-07
Scale	AS NOTED
Drawn by	DP
Checked by	MANABA
Job No.	MANABA
Sheet No.	A-1
of	2 sheets

















## **Section 3 – No Permanent Wastewater Structures**

This section presents the properties that were found to have no permanent wastewater structures on them. A summary of these sites is shown in the table below and a detailed fact sheet for each site is attached in the following pages.

#	Area	TMK	Address	Site Description
1	Maui	246018003	Lahainaluna Lahaina, HI 96761	Solar array and agriculture
2	Molokai	255002004	Kamalo Kaunakakai, HI 96748	Vacant agricultural land
3	Molokai	255002005	Kamalo Kaunakakai, HI 96748	Conservation land and marsh
4	Molokai	255002018	Kamalo Kaunakakai, HI 96748	Vacant agricultural land
5	Molokai	255002031	Kamalo Kaunakakai, HI 96748	Vacant agricultural land
6	Molokai	255002040	Kamalo Kaunakakai, HI 96748	Vacant agricultural and conservation land
7	Molokai	255002041	Kamalo Kaunakakai, HI 96748	Vacant agricultural and conservation land
8	Molokai	255002042	Kamalo Kaunakakai, HI 96748	Vacant agricultural and conservation land
9	Molokai	255002043	Kamalo Kaunakakai, HI 96748	Vacant agricultural and conservation land

## **Inspection Report – No Permanent Wastewater Structures 1**

Site TMK	246018003
Address	Lahainaluna Lahaina, HI 96761 Maui
Date Visited	January 17, 2019
Site Description	Solar array and agriculture
Additional Documentation	None
LCC Determination and Reasoning	<p>RMTC has determined that this property uses portapotties and does not contain an LCC based on the following evidence:</p> <p>During the site visit, RMTC observed two farm operations and an array of solar panels. RMTC interviewed the KS asset manager who confirmed that both farm operations utilize portapotties and there are no permanent wastewater structures. RMTC also observed these portapotties. The only building structure observed was a storage shed with no wastewater facilities.</p>
Wastewater Treatment System	Portapotties

## **Inspection Report – No Permanent Wastewater Structures 2**

Site TMK	255002004
Address	Kamalo Kaunakakai, HI 96748 Molokai
Date Visited	October 13, 2021
Site Description	Vacant agricultural land
Additional Documentation	None
LCC Determination and Reasoning	<p>RMTC has determined that this property has no permanent wastewater disposal structures and does not contain an LCC based on the following evidence:</p> <p>During the site visit, RMTC observed no structures on the property. RMTC interviewed the KS asset manager who confirmed that the property is vacant and there are no permanent wastewater structures.</p>
Wastewater Treatment System	No wastewater disposal

### **Inspection Report – No Permanent Wastewater Structures 3**

Site TMK	255002005
Address	Kamalo Kaunakakai, HI 96748 Molokai
Date Visited	October 13, 2021
Site Description	Conservation land and marsh
Additional Documentation	None
LCC Determination and Reasoning	<p>RMTC has determined that this property has no permanent wastewater disposal structures and does not contain an LCC based on the following evidence:</p> <p>During the site visit, RMTC observed no structures on the property. RMTC interviewed the KS asset manager who confirmed that the property is vacant and there are no permanent wastewater structures.</p>
Wastewater Treatment System	No wastewater disposal

#### **Inspection Report – No Permanent Wastewater Structures 4**

Site TMK	255002018
Address	Kamalo Kaunakakai, HI 96748 Molokai
Date Visited	October 13, 2021
Site Description	Vacant agricultural land
Additional Documentation	None
LCC Determination and Reasoning	<p>RMTC has determined that this property has no permanent wastewater disposal structures and does not contain an LCC based on the following evidence:</p> <p>During the site visit, RMTC observed no structures on the property. RMTC interviewed the KS asset manager who confirmed that the property is vacant and there are no permanent wastewater structures.</p>
Wastewater Treatment System	No wastewater disposal

## **Inspection Report – No Permanent Wastewater Structures 5**

Site TMK	255002031
Address	Kamalo Kaunakakai, HI 96748 Molokai
Date Visited	October 13, 2021
Site Description	Vacant agricultural land
Additional Documentation	None
LCC Determination and Reasoning	<p>RMTC has determined that this property has no permanent wastewater disposal structures and does not contain an LCC based on the following evidence:</p> <p>During the site visit, RMTC observed no structures on the property. RMTC interviewed the KS asset manager who confirmed that the property is vacant and there are no permanent wastewater structures.</p>
Wastewater Treatment System	No wastewater disposal

## **Inspection Report – No Permanent Wastewater Structures 6**

Site TMK	255002040
Address	Kamalo Kaunakakai, HI 96748 Molokai
Date Visited	October 13, 2021
Site Description	Vacant agricultural and conservation land
Additional Documentation	None
LCC Determination and Reasoning	<p>RMTC has determined that this property has no permanent wastewater disposal structures and does not contain an LCC based on the following evidence:</p> <p>During the site visit, RMTC observed no structures on the property. RMTC interviewed the KS asset manager who confirmed that the property is vacant and there are no permanent wastewater structures.</p>
Wastewater Treatment System	No wastewater disposal



## **Inspection Report – No Permanent Wastewater Structures 7**

Site TMK	255002041
Address	Kamalo Kaunakakai, HI 96748 Molokai
Date Visited	October 13, 2021
Site Description	Vacant agricultural and conservation land
Additional Documentation	None
LCC Determination and Reasoning	<p>RMTC has determined that this property has no permanent wastewater disposal structures and does not contain an LCC based on the following evidence:</p> <p>During the site visit, RMTC observed no structures on the property. RMTC interviewed the KS asset manager who confirmed that the property is vacant and there are no permanent wastewater structures.</p>
Wastewater Treatment System	No wastewater disposal

## **Inspection Report – No Permanent Wastewater Structures 8**

Site TMK	255002042
Address	Kamalo Kaunakakai, HI 96748 Molokai
Date Visited	October 13, 2021
Site Description	Vacant agricultural and conservation land
Additional Documentation	None
LCC Determination and Reasoning	<p>RMTC has determined that this property has no permanent wastewater disposal structures and does not contain an LCC based on the following evidence:</p> <p>During the site visit, RMTC observed no structures on the property. RMTC interviewed the KS asset manager who confirmed that the property is vacant and there are no permanent wastewater structures.</p>
Wastewater Treatment System	No wastewater disposal

## **Inspection Report – No Permanent Wastewater Structures 9**

Site TMK	255002043
Address	Kamalo Kaunakakai, HI 96748 Molokai
Date Visited	October 13, 2021
Site Description	Vacant agricultural and conservation land
Additional Documentation	None
LCC Determination and Reasoning	<p>RMTC has determined that this property has no permanent wastewater disposal structures and does not contain an LCC based on the following evidence:</p> <p>During the site visit, RMTC observed no structures on the property. RMTC interviewed the KS asset manager who confirmed that the property is vacant and there are no permanent wastewater structures.</p>
Wastewater Treatment System	No wastewater disposal

## **Section 4 – Small Capacity Cesspool**

This section presents the properties that were found to have a small capacity cesspool (SCC). A summary of these sites is shown in the table below and a detailed fact sheet for each site is attached in the following pages.

#	Area	TMK	Address	Site Description
1	Molokai	257008004	8330 Kamehameha V Hwy Kaunakakai, HI 96748	Single-family home and mango farm

### Inspection Report – SCC 1

Site TMK	257008004
Address	8330 Kamehameha V Hwy Kaunakakai, HI 96748
Date Visited	February 7, 2019
Site Description	Single-family home and mango farm
Additional Documentation	Photos Affidavit Taxes (2019 and 2020)
LCC Determination and Reasoning	<p>RMTC has determined that this property uses an SCC and does not contain an LCC based on the following evidence:</p> <p>During the site visit, RMTC observed a mango farm and a single-family home on the property. RMTC interviewed the tenant. Tenant confirmed the only structure with a bathroom facility is the single-family home in which no one lives. The single-family home is connected to a cesspool. RMTC confirmed with the tenant the general location of the cesspool. RMTC observed a sewer cleanout and cesspool inspection port cap.</p> <p>The asset manager confirmed that the caretakers and volunteers all have their own homes and do not live on the property. Tax records show that the farm income was \$0 and \$2,500 in 2019 and 2020, respectively, and that the farm incurred relatively low operating expenses. In addition, the property is in an extremely rural area, the single-family home is not fit for large-scale processing/production, and there is very little parking in the area. The foregoing supports the observation that the commercial operations on the property consist of a very small-scale farm, which is not accessed by 20 or more persons per day.</p> <p>This is a Small Capacity Cesspool (SCC) because it is non-residential with the capacity to serve fewer than 20 persons a day.</p>
Wastewater Treatment System	SCC



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A Principal crop or activity

B Enter code from Part IV

C Accounting method:

D Employer ID number (EIN) (see instr.)

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A Principal crop or activity

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D Employer ID number (EIN) (see instr.)

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